What Is Claimed Is:

1. A drive device, comprising:

a generator unit provided with a generating coil and designed to convert kinetic energy into electric energy by utilizing electromagnetic induction;

a storage unit to store the electric energy; and

a drive unit having a piezoelectric actuator to which the electric energy from the storage unit is supplied, and a mechanical structure driven by the piezoelectric actuator.

2. The drive device according to claim 1, wherein the generator unit is disposed at a location in which the positive projection of the generator on a plane perpendicular to the thickness direction of the drive device does not overlap the positive projection of the piezoelectric actuator on this plane.

3. The drive device according to claim 1, wherein the generator unit is disposed at a location in which at least part of the positive projection of the generator on a plane perpendicular to the thickness direction of the drive device overlaps the positive projection of the piezoelectric actuator on this plane.

4. The drive device according to claim 1 further having a structural member, wherein the generator unit is disposed on one side of the structural member, and the piezoelectric actuator is disposed on the other side of the structural member.

5. The drive device according to claim 1, wherein:

the piezoelectric actuator comprises an oscillating plate having a plate-shaped piezoelectric element and a reinforcing plate stacked on the piezoelectric element, a contact section provided to the longitudinal tip of the oscillating plate, and a holding section for holding the oscillating plate; and

the contact section is disposed at a location in which the mechanical structure is driven by displacement that accompanies the oscillation of the piezoelectric element.

6. The drive device according to claim 1, wherein the mechanical structure has a time display unit for displaying time information.

7. The drive device according to claim 6, wherein:

the mechanical structure further has a rotor; and

the piezoelectric actuator is configured so as to rotatably drive the rotor by elliptical movement resulting from a combination of longitudinal oscillation and curved oscillation.

8. The drive device according to claim 7, wherein the time display unit comprises pointers for displaying the time information and a pointer driving actuator for driving the pointers.

9. The drive device according to claim 1, wherein the mechanical structure includes an analog display device having analog pointers for displaying physical quantities.

10. A timing device, comprising:

an antenna;

a communication unit to communicate with an external communication device via the antenna; and

a drive unit having a piezoelectric actuator that oscillates according to a signal from the communication unit, and a mechanical structure designed to be driven by the piezoelectric actuator and provided with a time display unit for displaying time information.

11. The timing device according to claim 10, wherein:

the communication unit comprises a receiving unit for receiving time information at a specific cycle from the outside via the antenna, and a current time counter unit for sequentially updating the current time information using the time corresponding to the time information received by the receiving unit as a reference; and

the mechanical structure displays the time information on the time display unit on the basis of the current time information from the current time counter unit.

12. The timing device according to claim 10, wherein:

the mechanical structure further has a rotor; and

the piezoelectric actuator is configured so as to rotatably drive the rotor by elliptical movement resulting from a combination of longitudinal oscillation and curved oscillation.

13. The timing device according to claim 10, wherein:

the piezoelectric actuator comprises an oscillating plate having a plate-shaped piezoelectric element and a reinforcing plate stacked on the piezoelectric element, a contact

section provided to the longitudinal tip of the oscillating plate, a support member, and a holding section for holding the oscillating plate on the support member; and

the contact section is disposed at a location in which a rotor of the mechanical structure is driven by displacement resulting from the oscillation of the piezoelectric element.

14. The timing device according to claim 10, wherein:

the time display unit comprises pointers for displaying time information and a pointer driving actuator for driving the pointers; and

the antenna is disposed at a location in which the positive projection of the antenna on a plane perpendicular to the thickness direction of the timing device does not overlap the positive projection of the pointer driving piezoelectric actuator on the plane, and is also disposed to be separated by a specific distance in a direction perpendicular to the thickness direction.

15. The timing device according to claim 10, wherein:

the time display unit comprises pointers for displaying the time information and a pointer driving actuator for driving the pointers; and

the antenna is disposed at a location in which at least part of the positive projection of the antenna on a plane perpendicular to the thickness direction of the timing device overlaps the positive projection of the pointer driving piezoelectric actuator on the plane, and is also disposed to be separated by a specific distance in a direction perpendicular to the thickness direction.

16. A drive device, comprising:

generating means for converting kinetic energy into electric energy by utilizing electromagnetic induction;

storage means for storing the electric energy; and

drive means having a piezoelectric actuator to which the electric energy from the storage means is supplied, and a mechanical structure driven by the piezoelectric actuator.

17. The drive device according to claim 16, wherein the drive means further comprises time display means driven by the piezoelectric actuator and designed for displaying the time.

18. A timing device, comprising:

communication means for communicating with an external communication device; and

time display means provided with a piezoelectric actuator that vibrates according to signals from the communication means, and designed for displaying the time.

19. A method for controlling a timing device, comprising:

a preparation step for preparing a timing device comprising an antenna, a control unit, a piezoelectric actuator, and a mechanical structure having a time display unit;

a time display step wherein the control unit drives the piezoelectric actuator, the piezoelectric actuator operates the mechanical structure, and the time is displayed on the time display unit; and

a communication step wherein the control unit communicates with an external communication device via an antenna in conjunction with the time display step.

20. The method for controlling a timing device according to claim 19, wherein:

the communication step comprises a receiving step wherein time information is received from the outside via the antenna at a specific cycle, and a current time counting step wherein current time information is sequentially updated using the time corresponding to the time information as a standard; and

the time display step involves displaying the time on the time display unit on the basis of the current time information obtained in the current time counting step.

21. A method for controlling a timing device, comprising:

a preparation step to prepare a timing device comprising a control unit, a piezoelectric actuator, and a mechanical structure having a time display unit;

a current time counting step to update sequentially current time information by the control unit using the time information as a standard; and

a time display step to display the time information on the time display unit by the control unit driving the mechanical structure by the piezoelectric actuator on the basis of the current time information.